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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/046,563 | 01/16/2002 | William Damian Hogan | 4009-9 | 1785 |

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| EXAMINER |
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LY, NGHI H

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| ART UNIT | PAPER NUMBER |
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2686

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/046,563 | Applicant(s) HOGAN ET AL. | |
| | Examiner Nghi H. Ly | Art Unit 2686 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-16,18-22,24-31,33,34 and 36-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-16,18-22,24-31,33,34 and 36-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5, 10-12, 16, 18-22, 26-28, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Einola et al (US 6,438,370) in view of Tokuyoshi (US 6,058,310).

Regarding claim 1, Einola teaches a method implemented in a mobile radio terminal for reducing signaling associated with the mobile radio terminal entering a new geographic coverage area (see column 3, lines 40-67), comprising: establishing a connection with a radio access network (see fig.4, wireless connection between 405

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and BS), receiving from the radio access network information associated with one of the geographic coverage areas indicating whether the one geographic coverage area requires a geographic coverage area update procedure (see column 3, lines 40-67 and see column 4, lines 1-45), during the connection, selecting the one geographic coverage area (see column 3, lines 40-67 and see column 4, lines 1-45), and determining whether to perform a geographic coverage area update procedure depending on the received information associated with the one geographic coverage area (also see column 3, lines 40-67 and see column 4, lines 1-45).

Einola does not specifically disclose the radio access network is shared by two operators and the information indicates that the geographic coverage area update procedure should be performed for geographic coverage areas that are shared by the two operators and the geographic coverage area update procedure need not be performed for geographic coverage areas that are not shared by the two operators.

Tokuyoshi teaches the radio access network is shared by two operators (see column 6, lines 13-20, column 8, lines 19-27, and see column 2, lines 10-23) and the information indicates that the geographic coverage area update procedure should be performed for geographic coverage areas that are shared by the two operators (see fig.1, mobile terminal C in coverage areas that are shared by the two operators, see column 6, lines 13-20, column 8, lines 19-27, and see column 2, lines 10-23) and the geographic coverage area update procedure need not be performed for geographic coverage areas that are not shared by the two operators (also see column 6, lines 13-20, column 8, lines 19-27, and see column 2, lines 10-23. In Tokuyoshi, when the

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mobile terminal is completely located inside geographic coverage areas that are not covered by the two cells, the reception level of signal is stronger. As a result, the mobile terminal does not need to perform geographic coverage area update procedure).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Tokuyoshi into the system of Einola in order to provide a method for registering location of a mobile terminal wherein an exchange office can immediately confirm location of a mobile terminal and properly conduct location control of the mobile terminal (see Tokuyoshi, column 2, lines 5-10).

Regarding claim 2, Einola further teaches the information associated with one or more geographic coverage areas indicates restricted geographic coverage areas that require a geographic coverage area update procedure (column 3, lines 40-67 and see column 4, lines 1-45, see "whether a notification to the MS for location update is needed." Therefore, the teaching of Einola inherently teaches Applicant's "areas indicates restricted geographic coverage areas that require a geographic coverage area update procedure").

Regarding claim 3, Einola further teaches the information associated with one or more geographic coverage areas indicates geographic coverage areas that do not require a geographic coverage area update procedure (see column 3, lines 40-67).

Regarding claim 4, Einola further teaches the geographic coverage area update procedure involves communication with a core network coupled to the radio access network (see column 8, lines 15-24 and see Fig.17, "PSTN" and "IP").

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Regarding claim 5, claim 5 is rejected with a similar reason as set forth in claim 4 above.

Regarding claim 10, claim 10 is rejected with a similar reason as set forth in claim 1 above.

Regarding claim 11, Einola further teaches the mobile radio terminal uses the information to determine whether to perform a geographic coverage area update procedure before selecting the one geographic coverage area (see column 3, lines 40-67).

Regarding claim 12, claim 12 is rejected with a similar reason as set forth in claim 2 above.

Regarding claim 16, claim 16 is rejected with a similar reason as set forth in claim 4 above.

Regarding claim 18, claim 18 is rejected with a similar reason as set forth in claim 1 above.

Regarding claim 19, Einola further teaches the information associated with the one geographic coverage area indicates that a geographic coverage area update procedure is required (see column 3, lines 40-67).

Regarding claim 20, claim 20 is rejected with a similar reason as set forth in claim 3 above.

Regarding claim 21, claim 21 is rejected with a similar reason as set forth in claim 4 above.

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Regarding claim 22, claim 22 is rejected with a similar reason as set forth in claim 4 above.

Regarding claim 26, claim 26 is rejected with a similar reason as set forth in claim 1 above.

Regarding claim 27, claim 27 is rejected with a similar reason as set forth in claim 11 above.

Regarding claim 28, claim 28 is rejected with a similar reason as set forth in claim 2 above.

Regarding claim 31, claim 31 is rejected with a similar reason as set forth in claim 4 above.

Regarding claim 33, claim 33 is rejected with a similar reason as set forth in claim 1 above.

Regarding claim 34, claim 34 is rejected with a similar reason as set forth in claim 4 above.

4. Claims 7-9, 13-15, 24, 25, 29, 30, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Einola et al (US 6,438,370) in view of Tokuyoshi (US 6,058,310) and further in view of Bharatia (US 6,763,233).

Regarding claim 7, the combination of Einola and Tokuyoshi teaches the method in claim 1. The combination of Einola and Tokuyoshi does not specifically disclose the geographic coverage area is a location area, the radio access network is a UMTS terrestrial radio access network (UTRAN), and the mobile radio terminal is in a

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connected mode.

Bharatia teaches the geographic coverage area is a location area, the radio access network is a UMTS terrestrial radio access network (UTRAN), and the mobile radio terminal is in a connected mode (see column 9, lines 55-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Bharatia into the system of Einola and Tokuyoshi in order to support wireless communications for 2G and 3G mobile terminals.

Regarding claim 8, Einola further teaches the location area access indicator is a flag which when set indicates that a location update is required when entering the location area, and when not set indicates that a location update is not required when entering the location area (see column 4, lines 1-45).

Regarding claim 9, claim 9 is rejected with a similar reason as set forth in claim 8 above.

Regarding claim 13, claim 13 is rejected with a similar reason as set forth in claim 7 above.

Regarding claim 14, claim 14 is rejected with a similar reason as set forth in claim 8 above.

Regarding claim 15, claim 15 is rejected with a similar reason as set forth in claim 8 above.

Regarding claim 24, claim 24 is rejected with a similar reason as set forth in claim 7 above.

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Regarding claim 25, claim 25 is rejected with a similar reason as set forth in claim 8 above.

Regarding claim 29, claim 29 is rejected with a similar reason as set forth in claim 7 above.

Regarding claim 30, claim 30 is rejected with a similar reason as set forth in claim 8 above.

Regarding claim 36, claim 36 is rejected with a similar reason as set forth in claim 7 above.

Regarding claim 37, claim 37 is rejected with a similar reason as set forth in claim 8 above.

5. Claim 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Einola et al (US 6,438,370) in view of Bharatia (US 6,763,233).

Regarding claim 38, Einola teaches a system broadcast message format transmitted from a terrestrial radio access network over a radio interface to mobile radio terminals (see fig.1, wireless connection between handsets 110 and the base station 118), comprising: a system information message identification field (see column 4, lines 1-45), a location area identification field (see column 3, lines 40-67 and see column 4, lines 1-45), and a location area access restriction field (column 3, lines 40-67 and column 4, lines 1-45, see "whether a notification to the MS for location update is needed." Therefore, the teaching of Einola inherently teaches Applicant's "a location area access restriction field indicating whether a mobile radio terminal in a connected

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mode with the network is required to perform a location area update procedure”) indicating whether a mobile radio terminal in a connected mode with the network is required to perform a location area update procedure when entering the location area identified by the location area identification field (also see column 3, lines 40-67 and see column 4, lines 1-45).

Einola does not specifically disclose a network is a UMTS terrestrial radio access network (UTRAN).

Bharatia teaches a network is a UMTS terrestrial radio access network (UTRAN) (see column 9, lines 55-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Bharatia into the system of Einola in order to support wireless communications for 2G and 3G mobile terminals.

6. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Einola et al (US 6,438,370) in view of Bharatia (US 6,763,233) and further in view of Burgan et al (US 6,675,022).

Regarding claim 39, the combination of Einola and Bharatia teaches the system broadcast message format in claim 38. The combination of Einola and Bharatia does not specifically disclose the location area identification field includes a flag which is set for a location area that is shared by two operators and which is not set for a location area that is not shared by two operators.

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Burgan teaches the location area identification field includes a flag which is set for a location area that is shared by two operators and which is not set for a location area that is not shared by two operators (see column 16, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Burgan into the system of Einola and Bharatia in order to reduce the likelihood of service coverage holes in the wide area communication system (see Burgan, column 4, lines 50-53).

Response to Arguments

7. Applicant's arguments with respect to claims 1-5, 7-16, 18-22, 24-31, 33, 34 and 36-39 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Subhankar (US 6,112,097) teaches location area management (see column 3, lines 28-37).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi H. Ly

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06/15/05

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